New York's Freight Transportation Problem

By R. T. SAWYER, '23

A review of the report submitted by the New York Port Authority.

NEW YORK is now facing the largest port problem in the world. In population the New York district outranks any other metropolitan district in the western hemisphere by 200 per cent, and has nearly twice the population of the State of Ohio. Substantially one-half of the foreign commerce of the United States passes thru the port. Within this district are located more manufacturing industries than in the four cities of Philadelphia, Chicago, Cleveland and St. Louis, combined. As this port is very much cut up by waterways, it gives the district a magnificent waterfront of some 800 miles, one of the largest and best in the world.

Furthermore, New York is the financial center of the continent. It is the distributing point for foodstuffs over a large area, and its prices have a strong effect upon prices throughout the country. It is the commercial and industrial capital of the United States, and as such is the seat of many important activities.

In 1914, the last year not materially effected by the world war, the Port Commission found that 76,000,000 tons of freight moved into, out of, or through the port district by rail. The Commission estimates that in the same year 45,000,000 tons moved into, out of, or through the port by water, irrespective of a possible greater tonnage moved locally within the district.

Map showing railroads entering New York. Heavy lines indicate the proposed Automatic Electric System submitted by the New York Port Authority.

The foregoing indicates roughly the magnitude of the transportation operations of the port. In handling this vast amount of freight many old and very inefficient methods are extensively used. The cost of handling one ton within the port district by the present system is equivalent to sending that same ton from Co-

lumbus or Chicago to New York. In many respects New York has greatly outgrown its facilities and methods of transporting and distributing the millions of tons of supplies it receives each year. New methods and facilities must be installed as soon as possible to relieve these conditions.

FORMATION OF COMMISSION AND PORT AUTHORITY.

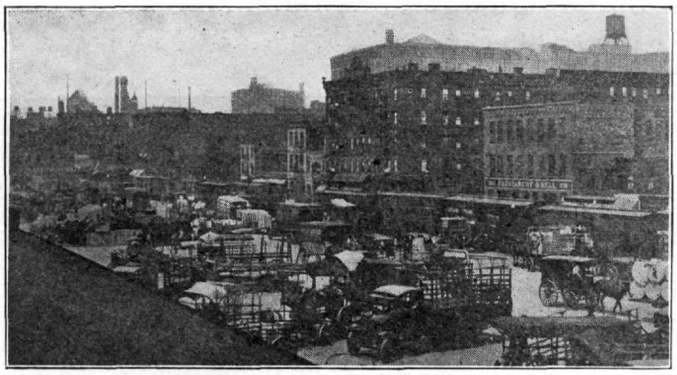
In the year 1803 Robert Fulton was given the sole right by the New York State Legislature to navigate up and down the Hudson River for twenty years. At that time New York State made claim to the whole Hudson River and the State of New Jersey claimed her boundary extended to the center of the river. These claims were the basis of many law suits. Finally, in August, 1817, the New York-New Jersey Port and Harbor Development Commission was formed and legally recognized by the States of New York and New Jersey. This Bi-State Commission recommended a treaty between the two states, asking for a comprehensive development of the port which would make a compact binding them, and establishing a port district and a Port of New York authority over it. This Port Authority is composed of three members from New York and three from New Jersey and is a body corporate and politic. It is charged with the carrying out of comprehensive plans after they have received the approval of the Legislatures of both States. President Harding approved the action of Congress ratifying the treaty on August 23, 1921. The Port Authority was directed by statute to study the plan of the Bi-State Commission and any other plan and on January 1, 1922, it submitted to the Legislatures of both States a comprehensive plan.

AUTOMATIC ELECTRIC SYSTEM.

The Automatic Electric system, which they recommend, handles freight quickly and easily from one side of the Hudson River to the other. This plan will eliminate a great deal of handling of freight cars on barges which have a high cost of operation and depreciation, thereby using that water front for trans-Atlantic vessels and utilizing that space for future developments. This automatic electric system shown on the map has twelve terminals on the west side of Manhattan Island. These are linked together with tracks which go through two sets of tubes under the Hudson River to the break-up yards in the Hackensack Meadows. This forms a loop running the cars to Manhattan through the north tubes and to New Jersey through the south tubes. There is a spur connection with the New York Central and in New Jersey a belt line railroad acts as a feeder to all railroad terminals outside of the breakage yards. From an economic standpoint, the chief advantages of this automatic electric plan are the reduced size of terminals, the reduction in Manhattan trackage, the reduced cost per foot of the deep tunnels, and the low operating cost due to automatic operation; also the possibility of building this plan and placing it in service without interference with present operations.

METHOD OF OPERATION.

The general basis of operation of the recommended plan is as follows: Cars containing incoming freight will be placed at platforms in



Photograph showing present congested condition of traffic.

the joint New Jersey yard (New York Central cars at the Sixtieth Street yard) and loaded upon small trailer trucks that can, if desired, enter the cars. Partly by hand and partly by electric tractors, the loaded trailers will be run across the platform, and into the special automatic electric cars. The latter will be despatched in eight car trains through the north tunnel and switched into any terminal desired. Here the trailers will be hauled off, other trailers bearing outbound freight will replace them, and the automatic-electric cars will be despatched in eight-car trains through the south tunnel back to the joint yard, where they will discharge their loads of trailers and begin a new cycle.

The essential characteristic of the system is the automatic operation of the trains of uniform speed, with a minimum of manual control. From yard to terminal and from terminal back to yard the trains will run at a moderate speed without operators. At the terminals and in the yards the cars will run singly, at low speed, with such manual control as is necessary to avoid collision or fouling at switches.

In Manhattan the system will be far underground to avoid conflict with other present and future subways. The special cars with their trailers will be handled by elevators between the track level and platform levels, which are accessible to street trucks.

At a constant speed of about 13.6 miles per hour, a train will take from fifteen to thirty minutes to run from the yard to the terminal. The cars are operated within the terminals at the speed of 2.27 miles per hour. To put a train onto the main track it is brought up to speed within the terminal and then sent out. When bringing a train in, the switch is turned for the approaching train and when inside of the main track it is brought under control. By this method very little manual control is necessary and a definite schedule is maintained.

This automatic-electric system has two separate parallel systems that are operated independently of each other. That is, the north and south tubes have two separate tunnels each

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containing one track and each terminal is divided into two parts, each side a duplicate using its own main track, sidings, platforms and elevators. This is a decided advantage, for if a breakdown occurs in one system the other is still free to operate. The system can be operated by either direct or alternating current, but the latter has been assumed in the estimates.

CAPACITY AND COST.

It is thought that the limits of the terminal capacity with twelve terminals is a normal business of 10,000,000 tons per year.

The time required to build this system would be approximately three years and the entire cost, including the twelve terminals, is about $200,000,000. The freight handled per year will earn considerably more than the interest on this large investment.

The Commission urges the installation of the automatic electric system as the solution of the West Side and Manhattan freight distribution problem, which is now carried on by the pier station system, which is expensive to operate and has a high percentage of depreciation.

As New York City is the commercial and industrial capital of the United States, the seat of many international activities, and furthermore, the financial center of the world, the problem of efficient transportation through and within this city is of vital importance to all.